

AMENDMENT UNDER 37 C.F.R. § 1.111  
U.S. Appln. No. 09/910,836

**AMENDMENTS TO THE SPECIFICATION**

**Page 1, second paragraph and last paragraph bridging page 2, replace as follows:**

In medical facilities such as clinics and hospitals, a large number of medical images such as X-ray images, CT images, and MR images have been in wide use. Medical facilities store such medical images in order to understand changes in patients' conditions. Furthermore, medical facilities store such medical images for a long time, since storage of medical images of some types is mandatory for a predetermined period. Such medical ~~images have been conventionally stored in the form of hard copies~~ images have been conventionally stored in the form of hard copies.

However, since medical images are photographed upon necessity at the time of medical treatment in medical facilities, medical images such as X-ray films are continuously increasing ~~in number. In order to store X-ray films in a preferable condition in number. In order to store X-ray films in a preferable condition~~ for a long time, the X-ray films need to be stored in isolation from moisture and light. Therefore, measures for the isolation are also necessary. Recently, there has been proposed a medical image filing apparatus for storing (filing) medical images after digitization thereof in the form of image data sets in a recording medium such as a magneto-optic disc and for enabling searches for a desired one of the image data sets.

**Page 2, first full paragraph, replace as follows:**

When the medical image filing apparatus is used, storage space for X-ray films or the like in a medical facility can be substantially saved. Moreover, a desired one of the image data sets can be searched for among the image data sets, and outputting ~~the image data on a film is also possible if necessary~~ the image data on a film is also possible if necessary. Therefore, storage of

AMENDMENT UNDER 37 C.F.R. § 1.111  
U.S. Appln. No. 09/910,836

medical images by digitization of the images (hereinafter called electronic storage) ~~has been put into practice~~ has been put into practice in medical facilities.

**Page 2, last paragraph bridging page 3, replace as follows:**

For example, a medical facility carrying out electronic storage bears accountability. That is, the medical facility explains to a third party that an apparatus, a system and the ~~like for electronic storage installed in the facility~~ like for electronic storage installed in the facility (hereinafter called the electronic storage system) satisfy a predetermined standard. The "predetermined standard" refers to a standard for securing safety and reproducibility of medical image data that are stored in the system, for example. Furthermore, a medical facility carrying out electronic storage also accepts managerial responsibility for managing the electronic storage system, and liability for a problem or loss caused by the electronic storage system. In addition to those responsibilities described above, a medical facility is responsible for restoring the image data in the electronic storage system in the case of destruction, for example.

**Page 4, first paragraph, replace as follows:**

a mobile image data reception device connectable to medical ~~image data storage means installed in a medical facility and having image data storage means installed in a medical facility~~ image data storage means installed in a medical facility and having a function of receiving medical image data sets stored in the medical image data storage means from the medical image data storage means and having a function of storing the medical image data sets; and

**Page 5, last paragraph bridging page 6, replace as follows:**

Another aspect of the medical image management system of the present invention comprises medical image data storage means installed in a medical facility for storing and

AMENDMENT UNDER 37 C.F.R. § 1.111  
U.S. Appln. No. 09/910,836

transmitting medical image data sets, and an image data storage apparatus for ~~enabling reception of the medical image data sets from the medical~~ enabling reception of the medical image data sets from the medical image data storage means and for storing the medical image data sets. The medical image management system is characterized by the fact that the image data storage apparatus comprises storage period management means for managing a storage period of each of the medical image data sets stored therein.

**Page 7, fourth full paragraph, replace as follows:**

The image data storage apparatus used in the medical image management system of the present invention stores the medical ~~image data sets received from the medical image data storage means~~ image data sets received from the medical image data storage means, and may comprise storage period management means for managing the storage period of each of the medical image data sets.

**Page 9, fourth full paragraph and last paragraph bridging page 10, replace as follows:**

Each of the medical image data sets includes not only data of a medical image but also accompanying information regarding the medical image data set, such as facility information, patient identification information, image identification information, ~~and information of the data of photographing and an input modality~~ and information of the data of photographing and an input modality. The patient identification information refers to information for identifying a patient, such as a patient ID and the name of the patient. The image identification information refers to information such as an image number for identifying each of the image data sets. It is preferable for the image identification information to include information indicating whether or

AMENDMENT UNDER 37 C.F.R. § 1.111  
U.S. Appln. No. 09/910,836

~~not each~~ information to include information indicating whether or not each of the image data sets  
is to be stored in the image data storage apparatus. In other words, the image number of the  
image data sets to be stored in the image data storage apparatus starts with "A" and otherwise,  
the image number starts with "B", for example.

The "reception" of the medical image data sets from the ~~medical image data storage~~  
~~means refers to reception of the medical~~ medical image data storage means refers to reception of  
the medical image data sets transmitted from the storage means or acquisition of the medical  
image data sets stored in the storage means by accessing the storage means.

**Page 10, first full paragraph, replace as follows:**

~~The storage period management means in the image data storage~~ The storage period  
management means in the image data storage apparatus refers to functions of referring to the  
date of photographing in the accompanying information of each of the medical image data sets  
that have been received, calculating the date of storage expiration by using the date of  
photographing and a mandatory storage period of the medical image data set, and storing the  
medical image data set in the image data storage apparatus until the expiration date. ~~The storage~~  
~~period maybe recorded as the accompanying information~~ The storage period maybe recorded as  
the accompanying information of each of the medical image data sets by the medical facility.  
Alternatively, the image storage apparatus may judge the storage period by using the  
accompanying information such as the input modality, for example. The date of photographing  
used as a reference for calculating the storage expiration date can be replaced by the date of  
reception of each of the medical image data sets from the storage means. In other words, any

AMENDMENT UNDER 37 C.F.R. § 1.111  
U.S. Appln. No. 09/910,836

method for calculating the expiration date can be used as long as each of the medical image data sets can be securely stored at least for the mandatory storage period.

**Page 11, third full paragraph, replace as follows:**

According to the medical image management system of the present invention having the above configuration, each of the data sets of the medical image whose storage is mandatory is securely stored in the image data storage apparatus outside the medical facility in the mandatory storage period. Therefore, without management of the storage period and a storage state by the doctor, the image data sets can be stored and managed appropriately. As a result, the image data storage apparatus ~~outside the medical facility can take on a portion of the managerial~~ outside the medical facility can take on a portion of the managerial responsibility for management of the electronic storage system and liability for a loss or the like caused by the system, which reduces a burden on the doctor.

**Page 11, last paragraph bridging page 12, replace as follows:**

In the case where the mobile image data reception device or the image data storage apparatus has the function of notifying the medical facility of storage of the medical image data sets at the time of reception or storage of the image data sets, the medical facility becomes aware of reception or storage of the medical image data sets. In this manner, the image data sets ~~stored in the medical image data storage means can be easily deleted~~ stored in the medical image data storage means can be easily deleted and managed, for example.

**Page 12, second full paragraph, replace as follows:**

If the medical facility keeps the image data sets that have been stored in the image data storage apparatus without deleting ~~the image data sets, the image data sets are stored at two~~

AMENDMENT UNDER 37 C.F.R. § 1.111  
U.S. Appln. No. 09/910,836

~~locations the image data sets, the image data sets are stored at two locations.~~ Therefore, a responsibility for security of the image data sets, such as restorability of the image data sets in the case of destruction, can be fulfilled.

**Page 17, last paragraph bridging page 18, replace as follows:**

When the medical facility 30 needs a portion of the image data sets stored in the image storage center 20 for transfer of a patient or the like, an output request is sent to the image storage center. A management operator in the image storage center 20 receiving the output request carries out output processing on the requested portion of the image data sets. In other words, the management operator inputs a search condition used for the requested portion of the image data sets, such as the facility information and the patient ID included in the accompanying information by using the input device 25. The control 23c of the image data storage apparatus 23 searches the image data sets stored in the data storage unit 23a for the requested portion of the image data sets and transmits the requested portion of the image data sets to the printing apparatus 24. The printing apparatus 24 outputs the portion of the image data sets that has been received on an X-ray file or the like. A company managing the image storage center 20 provides various kinds of services including the output request service each having a different charge. For example, a charge may be changed depending on frequency of reception of the image data sets from the storage terminal 31 installed in the medical facility 30 by the mobile storage system 10. The medical facility 30 can select a desired one of the services depending on urgency and budget. Furthermore, the company may provide a service of delivering a portion of the ~~image data sets stored in the image storage center 20 to a pertinent image data sets stored in the image~~

AMENDMENT UNDER 37 C.F.R. § 1.111  
U.S. Appln. No. 09/910,836

storage center 20 to a pertinent facility specified by the medical facility 30 or to a patient, for example.

**Page 18, last paragraph bridging page 19, replace as follows:**

The image storage center 20 manages the storage expiration date of each of the image data sets stored in the image data storage apparatus 23. In other words, the image data storage apparatus 23 calculates the storage expiration date by using the date of reception of each of the image data sets included in the reception information or the date of photographing included in the accompanying information stored in the data storage unit 23a, and a mandatory storage period of each of the image data sets. The mandatory storage period is determined in advance for each type of medical image data, and the image data storage apparatus 23 judges the mandatory storage period by using the accompanying ~~information of each of the image data sets received by the apparatus~~ information of each of the image data sets received by the apparatus. After the expiration date for one of the image data sets has passed, the management operator of the image storage center 20 deletes the image data set that has expired, based on a contract between the company and the medical facility 30. The exact nature of deletion processing is determined individually according to the contract with the medical facility 30. For example, the medical facility 30 can select processing such as "deletion of the image data set immediately after expiration", or "notification to the medical facility before deletion from the image storage apparatus in the image storage center".

**Page 19, last paragraph bridging page 20, replace as follows:**

The image storage apparatus 23 is connected to the storage terminal 31 in a state where the image data sets and the like can be received via the Internet. ~~The image data storage~~

AMENDMENT UNDER 37 C.F.R. § 1.111  
U.S. Appln. No. 09/910,836

apparatus The image data storage apparatus 23 has functions of receiving, storing and managing the image data sets and the like in the storage terminal 31. More specifically, reception information comprising the date of reception of each of the image data sets and the like by the image data storage apparatus 23 and a name of a data reception operator is stored in a data storage unit 23a of the image data storage apparatus 23, together with the image data sets received from the storage terminal 31. A program storage unit 23b stores a program for searching the data storage unit 23a for a desired one of the image data sets and the like, a program for displaying a screen on an input device 25, a program for calculating the date of storage expiration for each of the image data sets in the data storage unit 23a, and a program for recording the reception information at the time of data reception. It is preferable for the program storage unit 23b to store a program for regularly monitoring a storage status of the storage terminal 31 connected to the image data storage apparatus 23 via the Internet. In other words, the program storage unit 23b preferably stores a program for comparing a total amount of the image data sets in the storage terminal 31 with a capacity of a hard disc of the storage terminal 31 and for calculating free space of the hard disc.

**Page 22, last full paragraph, replace as follows:**

When the mobile storage system 10 and the image data storage apparatus 23 receive the image data sets from the storage terminal 31, only the image data sets stored after the most recent reception ~~date may be judged and received by referring to the date of storage~~ data may be judged and received by referring to the data of storage of each of the image data sets in the storage terminal 31.